Amendment to the Claims:

The listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

Claim 1 (canceled).

Claim 2 (Previously presented): The device according to claim 27, wherein the base of the vessel has a second side wall arranged opposite from the first side wall, wherein both the first and second side walls are flat and extend at an angle of less than 90° to the boundary surface, the transmitted light rays are coupled into the base via the first side wall and, following a total reflection at the boundary surface, are coupled out via the second side wall.

Claim 3 (Original): The device according to claim 2, wherein the first and second side walls of the base extend symmetrically to a symmetry plane of the base.

Claim 4 (Original): The device according to claim 2, wherein the vessel has an essentially hollow-cylindrical shape, the base is circularly cylindrical, and the first and second sidewalls comprise sloping sides for the circularly cylindrical base.

Claim 5 (Previously presented): The device according to claim 27, wherein each of the vessels has an open top presenting an upper edge, and the device further includes a disk-shaped attachment adjoining the upper edge for facilitating insertion of the vessel into a holder.

Claim 6 (Original): The device according to claim 5, wherein the attachment has a rectangular cross section presenting longitudinal sides that can be attached to the holder.

Claim 7 (Previously presented): The device according to claim 5, wherein the attachment has one side edge for receiving a marking characterizing the content of the vessel.

Claim 8 (Previously presented): The device according to claim 5, wherein the vessels and attachment comprise one piece.

Claim 9 (Previously presented): The device according to claim 27, wherein each of the vessels comprises an injection-molded plastic part.

Claim 10 (Previously presented): The device according to claim 9, wherein the vessels are comprised of polystyrene.

Claim 11 (Previously presented): The device according to claim 27, wherein the transmitters are arranged so that the transmitted light rays outside of the vessel extend parallel to the boundary surface of the vessel.

Claim 12 (Previously presented): The device according to claim 27, wherein the base has an underside and the receiver is arranged so that the at least one of the fluorescent rays and phosphorescent rays are coupled out via the underside of the base and conducted to the receiver.

Claim 13 (Previously presented): The device according to claim 27, further comprising an optical swamp arranged so that the light rays transmitted into the base via the first side wall are conducted to the optical swamp after the light rays exit from the vessel.

Claim 14 (Previously presented): The device according to claim 27, wherein each of the transmitters comprises a laser and a polarization filter connected downstream of the laser.

Claim 15 (Previously presented): The device according to claim 13, further comprising an arrangement of mirrors and upstream connected polarization filters for transmitting the light rays repeatedly through the bases of the vessels and onto the boundary surface.

Claim 16 (Previously presented): The device according to claim 27, wherein the transmitter is operable in a pulsed mode having a pulse-break ratio of transmitting light pulses selected such that optically excited luminophores emit fluorescent rays during emission of a transmitting light pulse and emit phosphorescent rays during transmitting breaks.

Claim 17 (Previously presented): The device according to claim 16, wherein the different luminophores include first and second luminophores, the first luminophores having a high fluorescence and low phosphorescence and the second luminophores having high phosphorescence and a low fluorescence.

Claim 18 (Previously presented): The device according to claim 16, wherein the receiver detects the first reaction agents with a time delay such that the fluorescent rays from the first luminophores are recorded during the emission of the transmitting light pulses and the phosphorescent rays from the second luminophores are recorded during the transmitting breaks.

Claim 19 (Previously presented): The device according to claim 27, wherein the receiver is one of a photo-multiplier, a PIN detector, and an avalanche diode, and includes a polarization filter, a receiving optic, and an interference filter installed in front of the receiver.

Claim 20 (Canceled).

Claim 21 (Canceled).

Claim 22 (Previously presented): The device according to claim 27, wherein the vessels are arranged in a linear arrangement of vessels.

Claim 23 (Canceled)

Claim 24 (Withdrawn): A method for analyzing immunoassays with a liquid medium comprising:

utilizing the device of claim 27; and

operating the transmitters for transmitting light pulses in a pulsed mode, the pulsed mode having a pulse-break ratio, the pulse-break ratio being selected such that optically excited luminophores emit fluorescent rays during emission of a transmitting light pulse and emit phosphorescent rays during transmitting breaks.

Claim 25 (Withdrawn): The method according to claim 24, further comprising:

labeling two different reaction agents with different luminophores, wherein the first luminophores have a high fluorescence and low phosphorescence and the second luminophores have high phosphorescence and a low fluorescence.

Claim 26 (Withdrawn): The method according to claim 24, further comprising:

detecting the first reaction agents with a time delay;

recording fluorescent rays from first luminophores during the emission of the transmitting light pulses; and

recording phosphorescent rays from second luminophores during the transmitting breaks.

Claim 27 (Currently presented): A device for analyzing sandwich immunoassays with a liquid assay medium, comprising:

a plurality of vessels for holding the assay medium, each of the vessels having a base comprised of a solid body, the solid body having a first side wall and a top surface constituting a bottom surface of the vessel and forming a boundary surface of the solid body, wherein first reaction agents are dissolved in the assay medium in the vessel and are labeled with a luminophore or different luminophores and second reaction agents are bonded to the boundary surface within a boundary layer of the assay medium;

a plurality of transmitters for emitting light rays that are coupled into the base of the vessel via the first side wall and conducted at a total reflection angle to the boundary surface so that luminophore-labeled first reaction agents that are bonded to the second reaction agents are optically excited by at least some of the light rays and emit at least one of fluorescent and phosphorescent rays;

a polygonal mirror; and

a receiver positioned for quantitatively detecting at least one of the fluorescent rays and phosphorescent rays,

wherein the ~~transmitter comprises a~~ plurality of transmitters are activated individually, one after another, and the plurality of vessels are arranged concentrically to the polygonal mirror so that the fluorescent rays exiting at the vessels are conducted via the polygonal mirror to the receiver ~~comprises a multiple arrangement of vessels onto which light rays emitted by the transmitters are respectively focused~~, and the receiver is a common receiver for recording the fluorescent rays exiting from the individual vessels.

Claim 28 (Currently Amended): A device for analyzing immunoassays with a liquid assay medium, comprising:

a plurality of vessels, each vessel having a well with a lower portion for holding the assay medium and having a base which has a top layer that defines the lower portion of the well and a first side wall, which is capable of receiving light rays and reflecting them to the top layer where a second reaction component is bound;

a plurality of transmitters, each transmitter for emitting light rays to the base of the vessel via the first side wall and conducted at a total reflection angle to a boundary surface formed between the bound second reaction component and the assay medium so that luminophore-labeled first reaction agents that are bonded to the second reaction agents are optically excited by at least some of the light rays and emit at least one of fluorescent and phosphorescent rays;

a receiver positioned underneath ~~functionally below~~ the base to receive ~~for quantitatively detecting the~~ at least one of the emitted fluorescent rays and phosphorescent rays and thereby permit a direct quantitative measurement of an analyte of interest;

a polygonal mirror; and

~~optionally~~ an optical swamp positioned ~~functionally below the base~~ to receive the reflected light rays, wherein the assay medium contains first reaction agents which are labeled with a luminophore or different luminophores and sample suspected of containing an analyte of interest ;

wherein the plurality of transmitters are activated individually, one after another, and the plurality of vessels are arranged concentrically to the polygonal mirror so that the fluorescent rays exiting at the vessels are conducted via the polygonal mirror to the receiver, and the receiver is a common receiver for recording the fluorescent rays exiting from the individual vessels.